conducted a retrospective cohort study to describe the risk factors and natural history of post-transplant DM and HTN. Consecutive allogeneic HCT recipients from 2003–2005 were included in this study if they had survived >1 year post-transplant and had not received a previous HCT. DM and HTN were defined by published adult and pediatric guidelines. The final cohort consisted of 180 patients (adult [≥18 years] 106, pediatric [<18 years] 74); the median age was 27 (range 0.2–69) years. Before HCT, 13% had DM, 9% had HTN, 18% smoked and 19% were obese. Pediatric patients were less likely to have pre-transplant DM, HTN, smoking history or high-risk disease and more likely to receive myeloablative (MA) conditioning. MA conditioning (Cy + 1320 cGy TBI ± Flu) was given to 66% recipients, remainder received non-MA conditioning (Cy + Flu + 200 cGy TBI). All patients are followed until at least 2 years post-HCT at our center; among these 1 year survivors, 156 (87%) were alive at 2 years. Acute or chronic graft-versus-host disease occurred in 118 (66%) patients; of these, 34% received cyclosporine (CSA) for >12 months and 47% received prednisone for >12 months. Within 2-years after HCT, 54 (30%) had DM while 126 (70%) had HTN. Rates were similar for adult (DM 30%, HTN 68%) and pediatric (DM 30%, HTN 73%) recipients. At 2 years post-HCT, 12% had persistent DM while 39% had persistent HTN. Increasing cumulative dose of corticosteroids increased the likelihood of having persistent DM at 2 years post-transplant (no steroids 7%, ≤ 0.25 mg/kg/d 13%, >0.25 mg/kg/d 27%, p = 0.02); such an association was not observed for HTN. On multivariate analyses, risk factors for DM included history of DM pre-HCT (relative risk [RR] 5.0 [95% CI, 2.8–8.9]) and prednisone exposure (RR 2.4 [1.3–4.5]), while no predictive factors for resolution of post-HCT DM were identified. CSA exposure was the only risk factor for post-HCT HTN (RR 1.6 [1.1–2.5]), while history of HTN pre-HCT was predictive for persistent HTN beyond 2 years (RR 3.07 [1.1–8.3]). DM and HTN are frequent among survivors of adult and pediatric allogeneic HCT and can persist for an extended period of time after transplantation. Continued monitoring and treatment of DM and HTN is necessary in HCT survivors, especially if survivors have been exposed to corticosteroids.

135

MORTALITY OF HEMATOPOIETIC STEM CELL TRANSPLANT RECIPIENTS ADMITTED TO A MEDICAL INTENSIVE CARE UNIT (MICU) AS PREDICTED BY THE HEMATOPOIETIC CELL TRANSPLANTATION COMORBIDITY INDEX (HCTCI)

Miller, S.M., Rossetti, J., Sahovic, E., Hilton, C., Lister, J. The Western Pennsylvania Cancer Institute, Pittsburgh, PA

Introduction: Severity of illness scores validated in the critical care setting are known to underestimate mortality in cancer patients. We evaluated the Hematopoietic Cell Transplantation Comorbidity Index (HCTCI) score (Sorror et al) as a predictor of mortality in HCT recipients requiring intensive care.

Methods: A retrospective review of HCT recipients transplanted between January 1, 1997, and March 1, 2007 was preformed. The HCTCI score was calculated for each patient at the time of admission to the MICU. The primary endpoint was defined as survival for seven days from the time of discharge from the MICU. Covariates analyzed included age, sex, conditioning regimen, need for mechanical ventilation, use of vasopressors, time from transplant to MICU admission, HCT type, and absolute neutrophil count (ANC) at the time of MICU admission.

Results: Seventy-four of 892 patients (8.3%) required MICU care. Forty-two (57%) were males, 32 (43%) females and the median age was 47 (range: 22–71). Twenty-three (31%) patients received autologous, 26 (35%) matched related donor (MRD) and 25 (34%) matched unrelated donor (MUD) HCT. Overall mortality was 72%. Using the Wilcoxon signed-rank test, the HCTCI score was found to be highly predictive of mortality (p<0.0001). None of the patients with an HCTCI score of ≥10 survived. Univariate analysis identified transplant type [mortality: autologous 52%, MRD 73%, MUD 88%; p = 0.02], conditioning [mortality: myeloablative 91% versus non-myeloablative 57%; p = 0.002], mechanical ventilation (MV): [mortality: MV n = 43, 79% versus no MV n = 31, 61%; p = 0.0003], and ANC [mortality: < 500 /μL 88%, ANC ≥ 500 /μL 60%; p = 0.01] as correlating with mortality. In multivariate analysis only the HCTCI score remained significantly correlated with mortality (p = 0.001) with a point estimate of the odds ratio of 2.8 (95% C.I. 1.5–5.3).

Conclusion: This retrospective study demonstrates the predictive value of the HCTCI for mortality when calculated on admission to the MICU at our institution. The HCTCI score is easily calculated and readily applicable in the clinical setting. Prospective study of the HCTCI is needed for validation of this tool as a predictor of mortality on MICU admission.

136

UTILITY OF THE PSYCHOSOCIAL ASSESSMENT OF CANDIDATES FOR TRANSPLANTATION (PACT) SCALE IN ALLOGENEIC BMT

Foster, L.W.[1], McLellan, L.J.[2], Rybicki, L.A.[2], Bolwell, B.J.[2] [1] Cleveland State University, Cleveland, OH; [2] Cleveland Clinic, Cleveland, OH

The Psychosocial Assessment of Candidates for Transplantation (PACT) scale was completed on 120 allogeneic BMT patients pre-transplant, from 11/2003 to 6/2007. The PACT has 8 items, each rated on a 5-point scale, and an initial and final rating independently based on the rater's overall impressions of the candidate's acceptability for transplant. This study assessed utility of the PACT scale for psychosocial screening in allogeneic BMT. Examined were associations of the eight PACT subscales and the final rating with medical outcomes, post-transplant. Significant relationships (P ≤ 0.05) between PACT subscales and medical outcomes are as follows: better scores on compliance with medications and medical advice associates with lower in-hospital mortality, shorter length of stay and readmission duration, and faster neutrophil and platelet engraftment; better scores on drug/alcohol use associates with faster platelet engraftment; better scores on family/support system availability and on relevant knowledge and receptiveness to education associates with decreased risk of mortality. The final rating score and medical outcomes are not significantly related; however, study findings underscore the prognostic value of the PACT subscales and, thus, utility for screening of BMT candidates.

137

ETHICAL REASONING ABOUT PATIENT ELIGIBILITY IN ALLOGENEIC BMT BASED ON PSYCHOSOCIAL CRITERIA

Foster, L.W.[1], McLellan, L.J.[2], Rybicki, L.A.[2], Bolwell, B.J.[2] [1] Cleveland State University, Cleveland, OH; [2] Cleveland Clinic, Cleveland, OH

Chairpersons of hospital ethics committees (HEC) and BMT clinicians were compared regarding willingness to proceed with allogeneic BMT given select psychosocial risk factors. A self- administered questionnaire was sent to 62 HEC chairpersons at hospitals with an accredited BMT Program; response rate was 37%. Items included background information, followed by six case vignettes from a 2006 national survey on which BMT physicians, nurses, and social workers agreed not to proceed with allogeneic BMT based on the following risk factors: suicidal ideation; use of addictive, illicit drugs; history of non-compliance; has no caregiver; is alcoholic; and has mild dementia. Opinions regarding transplant differed on one case only, patient with mild dementia; 27% of HEC chairpersons recommended not proceeding with BMT, which was significantly lower than nurses (68%, p < 0.001), physicians (63.5%, p < 0.001), and social workers (51.9%, P = 0.05). That HEC chairpersons disagreed with BMT clinicians in the case of mild dementia may suggest that they view dementia patients as more deserving of consideration for BMT than patients who have some element of choice in the psychosocial risk factor. In general, qualitative data reveal patterns of informal ethical reasoning that suggest transplant decisions may be linked to patient responsibility for the psychosocial risk factor as well as medical benefit/outcome.

138

AVASCULAR NECROSIS (AVN) IN SURVIVORS OF HEMATOPOIETIC-CELL TRANSPLANTATION (HCT): A LARGE SINGLE INSTITUTION STUDY

McAvoy, S., Mulrooney, D.A., Arora, M., Baker, K.S., Burns, L.J., Majhail, N.S. University of Minnesota, Minneapolis, MN

AVN is a debilitating complication of HCT. We describe a contemporary cohort of patients with AVN after HCT to describe its